

KXH

File: 0642-8115US-Final/cathywan/steveschoo

03-Oct-13

What is claimed is:

- 1 1. A non-woven fabric filter for wastewater
2 treatment with activated sludge process comprising:
3 a tubular non-woven fabric filtering portion, which
4 has a mean pore size of 0.2 μm to 150 μm ;
5 a porous tubular supporting portion disposed on
6 inner walls of the tubular non-woven fabric
7 filtering portion to support the non-woven
8 fabric filtering portion; and
9 a sealing portion for sealing two ends of the tubular
10 non-woven fabric filtering portion and the
11 tubular supporting portion, while leaving a
12 hollow space in the tubular supporting portion.
- 1 2. The non-woven fabric filter as claimed in claim
2 1, wherein the non-woven fabric filtering portion is
3 planar.
- 1 3. The non-woven fabric filter as claimed in claim
2 1, wherein the non-woven fabric filtering portion is
3 folded.
- 1 4. The non-woven fabric filter as claimed in claim
2 1, wherein the porous tubular supporting portion has a
3 mean pore size of 100 μm to 3 mm.
- 1 5. The non-woven fabric filter as claimed in claim
2 1, wherein the tubular supporting portion is porous
3 non-woven fabric.

KNH

File: 0642-8115US-Final/cathywan/steveschoo
03-Oct-13

1 6. The non-woven fabric filter as claimed in claim
2 1, wherein the tubular supporting portion is a porous
3 plastic tube.

1 7. The non-woven fabric filter as claimed in claim
2 1, wherein the sealing portion is a polymer material.

1 8. A non-woven fabric filtering module, comprising
2 a plurality of the non-woven fabric filters as claimed in
3 claim 1.

1 9. A process for fabricating a non-woven fabric
2 filter, comprising the following steps:
3 providing a tubular non-woven fabric filtering
4 portion, wherein the tubular non-woven fabric
5 filtering portion has a mean pore size of 0.2
6 μm to 150 μm;
7 disposing a porous tubular supporting portion on
8 inner walls of the tubular non-woven fabric
9 filtering portion to support the non-woven
10 fabric filtering portion; and
11 sealing two ends of the tubular non-woven fabric
12 filtering portion and the tubular supporting
13 portion with a sealing portion, while leaving
14 a hollow space in the tubular supporting
15 portion.

1 10. A wastewater treatment process with activated
2 sludge process using a non-woven fabric filter,
3 comprising the following steps:

KNH

File: 0642-8115US-Final/cathywan/steveschoo

03-Oct-13

4 providing a wastewater treatment tank in which
5 activated sludge and the non-woven fabric
6 filter as claimed in claim 1 are contained;
7 introducing wastewater containing organic material
8 into the wastewater treatment tank, so as to
9 allow activated sludge to decompose organic
10 material in wastewater; and
11 allowing the decomposed water to permeate through
12 the non-woven fabric filter to obtain filtered
13 water.

1 11. The wastewater treatment process with activated
2 sludge as claimed in claim 10, wherein the step of allowing
3 the decomposed water to permeate through the non-woven
4 fabric filter includes allowing the decomposed water to
5 permeate through the walls of the tubular non-woven fabric
6 filtering portion and the porous tubular supporting
7 portion and to permeate out from the hollow space in the
8 tubular supporting portion.